

APPENDIX F

QUINO CHECKERSPOT BUTTERFLY SURVEY

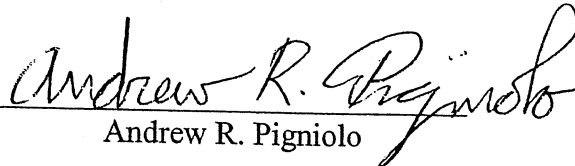
**FOCUSED SURVEY REPORT
FOR THE
QUINO CHECKERSPOT BUTTERFLY
ON THREE PARCELS NEAR BOULEVARD,
SAN DIEGO COUNTY, CALIFORNIA**

Prepared for:

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Introduction

Laguna Mountain Environmental, Inc. (Laguna Mountain) performed adult surveys for the Quino checkerspot butterfly (*Euphydryas editha quino*) on three adjacent parcels totaling approximately 137-acres in Boulevard, San Diego County, California (Figure 1). The site is located southwest of the community of Boulevard and west of Tierra del Sol and the Tecate Divide. The project area is approximately 1-mile south of Highway 94 and 1/4 mile east of the Campo Indian Reservation. It is accessible from Shasta Lane and is located in Section 2, Township 18 South, Range 6 East. The project area is shown on the Live Oak Springs 7.5' USGS Quadrangle (Figure 2). The proposed project involves a lot split and a proposed residential development permit issued by the County of San Diego.

A habitat assessment conducted on the property determined that non-excluded areas, as defined by the U. S. Fish and Wildlife Service (USFWS 2002), occur on the property (Figure 3). Excluded areas, not recommended for Quino surveys are defined as:

- Closed-canopy forests or riparian area, dense chaparral, and small openings completely enclosed within a closed-canopy or dense chaparral area.

Within the project area excluded areas consisted of dense mixed chaparral and oak woodland. Non-excluded areas included old and abandoned dirt roads and openings in chaparral and oak woodland habitats. This report documents the results of focused surveys conducted in these non-excluded areas which comprise approximately 60 acres of the project site.

Methods

The surveys for adult Quino checkerspot were conducted by Andrew R. Pignuolo (Permit No. PRT-840623) between April 11, 2003 and May 12, 2003. The surveys were conducted on a biweekly basis when weather conditions allowed under acceptable weather conditions defined in the U. S. Fish and Wildlife Service protocol. The surveys involved slowly walking roughly parallel transects throughout the non-excluded portions of the property including along dirt roads and trails that bordered excluded vegetation. The survey was conducted at an average rate of 10 acres per hour. The surveyor stopped periodically to scan adjacent areas for moving butterflies. All butterfly species observed were identified and recorded.

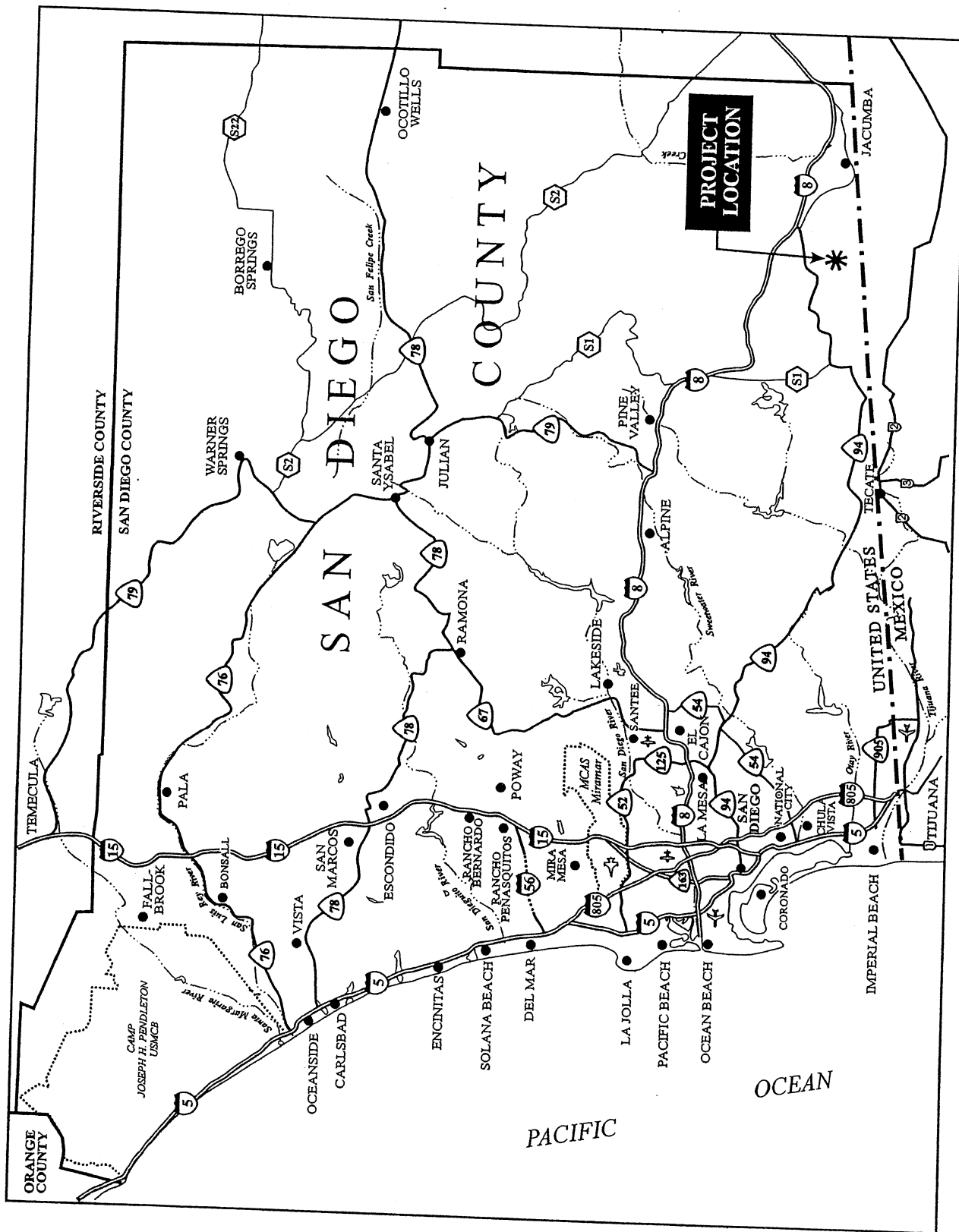
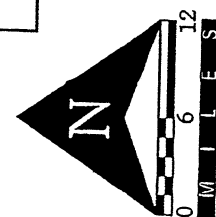
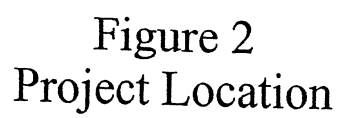
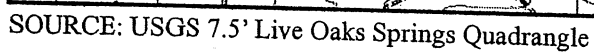


Figure 1
Regional Location Map





Laguna Mountain Environmental, Inc.

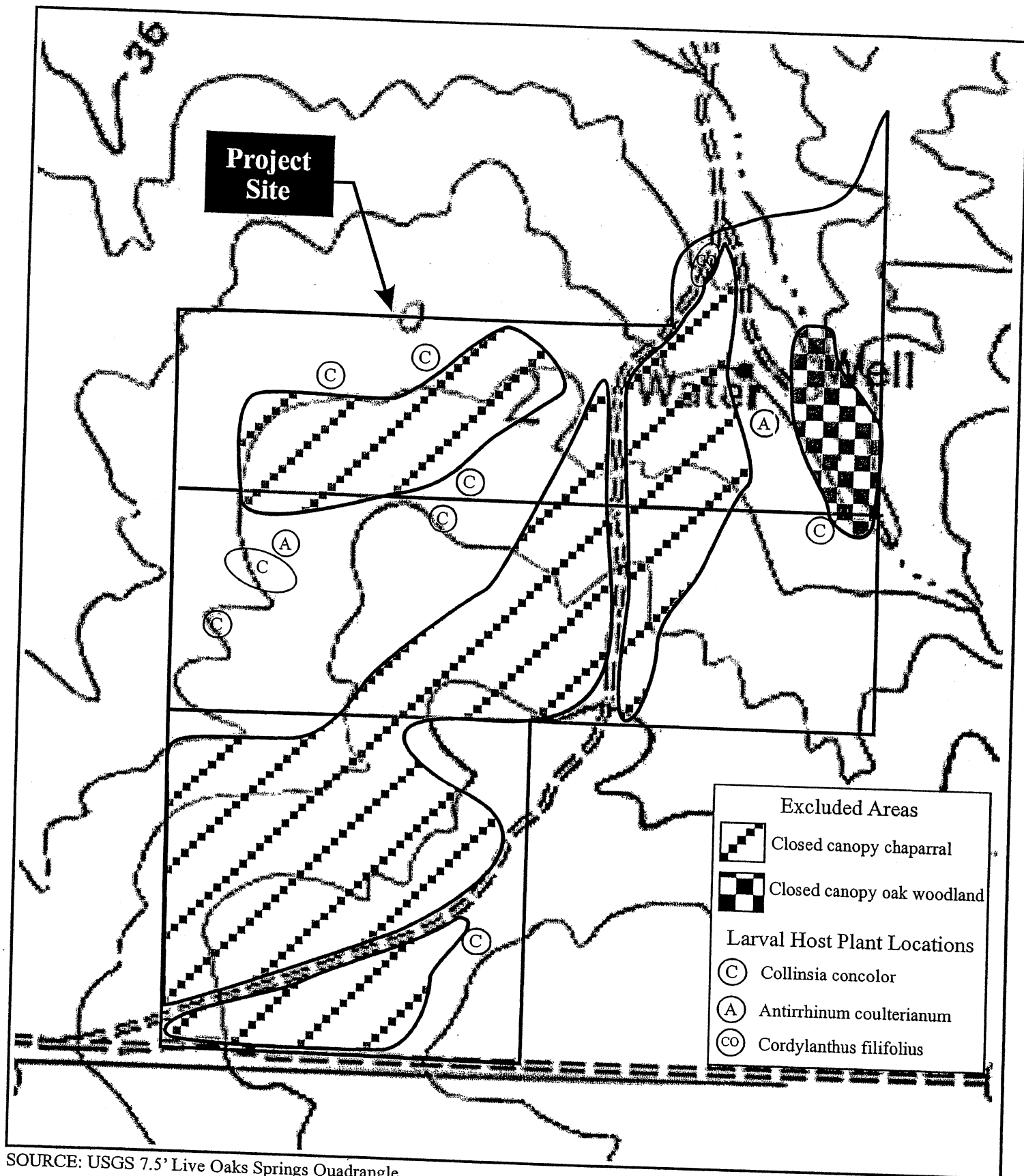
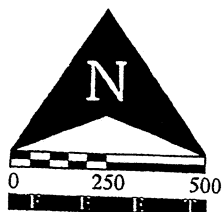


Figure 3
Project Location



Survey times and weather conditions are presented in the field notes provided in Appendix A and summarized in Table 1.

Table 1. Quino Checkerspot Adult Survey Dates and Weather Conditions

Date	Time		Weather Conditions
April 11, 2003	start: 0800	end: 1400	start: hazy, air temp: 60° F, wind between 2 and 8 mph end: slightly hazy, air temp: 62° F, wind between 2 and 7 mph
April 15, 2003	start: 0930	end: 1530	start: clear, air temp: 66° F, wind between 0 and 3 mph end: clear, air temp: 74° F, wind between 0 and 7 mph
April 19, 2003	start: 1030	end: 1630	start: clear, air temp: 62° F, wind between 2 and 9 mph end: clear, 65° F, wind between 0 and 7 mph
April 24, 2003	start: 0930	end: 1500	start: clear, air temp: 63° F, wind between 0 and 3 mph. end: clear, air temp: 72° F, wind between 0 and 7 mph.
April 27, 2003	start: 1000	end: 1600	start: clear, air temp: 69° F, wind between 2 and 7 mph end: clear, air temp: 65° F, wind between 0 and 5 mph
May 1, 2003	start: 0930	end: 1530	start: clear, air temp: 62° F, wind between 0 and 3 mph, slightly hazy by 10:30 but passed by 1330, end: clear, air temp: 72° F, wind between 0 and 3 mph
May 12, 2003	start: 1130	end: 1700	start: slightly hazy, air temp: 75° F, wind between 0 and 2 mph end: clear, air temp 72° F,, wind between 0 and 4 mph.

Physical Setting

As stated previously, the three parcels making up the project area consist of approximately 137 acres. The site is currently undeveloped although a small graded area is present in the northern parcel. A major drainage passes north/south through the eastern portion of the project area and dirt roads and a well and old water tank are also present in this portion of the project. Other areas of the property are largely undisturbed and include an old dirt road and small motor bike tracks. Foot paths were also noted on the property. Overall, the area was largely undisturbed and evidence of past grazing was not noted. Non-native weeds were minimal and annual flowers and nectar sources were abundant.

Elevation on the project site ranges between approximately 3,620 feet to 3,820 feet above mean sea level with a gradual increase in elevation from the northern end of the site to the southern end of the site. The western half of the project area is a gentle ridge while a small drainage is present along the eastern edge. The southern portion of the project is a slightly higher ridge largely dominated by chaparral. southern half of the site consists mainly of non-native pastureland is at an elevation of 2,600 feet (Figure 2).

Three soil types occur on the property (USDA 1973). These include La Posta loamy course sand, Kitchen Creek loamy course sand, and Mottsville loamy course sand. La Posta loamy course sand is present on 5 to 30 percent slopes and usually occurs on gently rolling hills. This soil type is derived from granodiorite and is well drained. It dominates the higher areas of the project.

Kitchen Creek loamy course sand is also derived from weathered granodiorite and is present on broad ridges with 5 to 9 percent slopes. These soils are moderately deep. Mottsville loamy course sand is present along the drainage course in the eastern portion of the project area. It consists of excessively drained, very deep, loamy coarse sands. This soil has been formed from sediments transported from granitic rock and includes slopes of 2 to 9 percent.

Vegetation

Several vegetation communities exist in or adjacent to the non-excluded areas surveyed for the Quino checkerspot. These include southern coast live oak riparian woodland and southern mixed chaparral. A complete list of plant species observed during field surveys is provided in Appendix B.

Southern coast live oak riparian woodland is an evergreen woodland along a seasonal drainage. The community is dominated by coast live oak (*Quercus agrifolia*) but also includes scattered willow and other riparian species. The understory ranges from open to shrubby. Within the project area this habitat is confined to the eastern drainage margin. A portion of this area has been disturbed by the construction of a small earth retaining dam in the past.

Southern mixed chaparral occurs on the foothills and inland areas of San Diego County. It can grow to between approximately 5 and 9 feet tall. Species commonly associated with this community include manzanita (*Arctostaphylos glandulosa*), scrub oak (*Quercus berberidifolia*), lilac (*Ceanothus* sp.), and interior mountain mahogany (*Cercocarpus betuloides*). Southern mixed chaparral dominates the majority of the property. Dominant species in southern mixed chaparral on the project site included chamise, scrub oak, lilac, redshanks, and buckwheat.

Larval Hostplants

Three of the potential Quino checkerspot larval hostplants were observed during the habitat assessment and focused surveys of the project site. The locations of these plants are depicted in Figure 3. These included Chinese houses (*Collinsia concolor*), bird's beak (*Cordylanthus filifolius*), and Coulter's snapdragon (*Antirrhinum coulterianum*). Plantago, the preferred host plant, was not observed. The Chinese houses and Coulter's snapdragon came into flower during the surveys while bird's beak seedlings were just emerging and not yet in flower. No evidence of herbivory was detected on these species during the focused surveys.

Results

No adult or larval Quino checkerspot were detected during the surveys of the project area. Butterfly species observed are summarized in Table 2.

Table 2. Butterfly Species Observed.

Survey Dates	4/11/03	4/15/03	4/19/03	4/24/03	4/27/03	5/1/03	5/12/03
Species							
Common White (<i>Pontia protodice</i>)	20	55	57	61	49	52	55
Painted Lady (<i>Vanessa cardui</i>)	21	33	34	272	110	98	18
Sara orangetip (<i>Anthocharis sara</i>)	4	44	68	65	79	96	77
Behr's metalmark (<i>Apodemia mormo virgulti</i>)	4	43	31	56	39	39	18
Gabbs Checkerspot (<i>Closyne gabbii</i>)	0	7	6	6	7	5	2
Funereal duskywing (<i>Erynnis funeralis</i>)	0	7	1	5	6	1	6
Perplexing hairstreak (<i>Callophrys perplexa</i>)	0	1	0	1	0	0	0
Buckeye (<i>Precis coenia</i>)	0	0	3	1	1	1	4
Harford's sulfur (<i>Colias harfordi</i>)	0	0	0	0	1	0	1
Acmon blue (<i>Icaricia acmon</i>)	0	2	1	0	0	0	6
Marine blue (<i>Leptotes marina</i>)	0	0	0	1	0	2	0
Southern blue (<i>Glaucopsyche lygdamus australis</i>)	0	0	0	3	1	0	0

Red admiral (<i>Vanessa atalanta rubra</i>)	0	1	0	0	0	1	1
Sleepy sulphur (<i>Erema nicippe</i>)	0	0	0	0	0	0	1

Conclusion

The results of the focused surveys indicate that the Quino checkerspot does not occur on the three parcels that make up the project area. Hilltops, areas of open ground, and host plants that would potentially serve as Quino habitat were searched repeatedly during each weekly survey, with negative results. Neither Quino larvae or adults were observed during the survey period.

APPENDIX A. Copies of Original Field Notes

Garza Field Notes

4/11/03

Start 8:00 60° wind ~~0-2~~ 2-8mph hazy-cloudy. Conditions not great. Secondary host plants all young seedlings, or noted by dead stalks from last year.

- 20 Common white IIII IIII IIII IIII
- 4 Sava Orange tip IIII
- 4 Behr's metal mark IIII
- 21 Lady IIII IIII IIII IIII | (prob painted ladys but some flying fast)
- 22 Moth IIII IIII IIII IIII II

End 2:00 62° 2-7mph partly cloudy

Garza Field Notes

4/15/03

Start: 9:30 AM 66° Wind 0-3 mph, Clear
Collinsia seedlings along with Antirrhinum c.
No herbivory noted. Cordylanthus very small
seedlings.

Species Observed

- 55 Common White IIII IIII IIII IIII IIII IIII IIII IIII IIII IIII
- 44 Sava Orange Tip IIII IIII IIII IIII IIII IIII IIII IIII IIII
- 33 Lady (Painted) IIII IIII IIII IIII IIII IIII IIII IIII IIII
- 43 Behr's metal mark IIII IIII IIII IIII IIII IIII IIII IIII IIII
- 7 babb's checkerspot IIII II
- 2 Acmon blue II
- 7 Dusky wing skipper IIII II
- 1 perplexing hairstreak I
- 1 Red admiral I
- 16 Moths IIII IIII IIII I






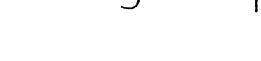
2:00 75° 0-7 mph

End 3:30 0-7 mph

Barza Field Notes

4/19/03

Start: 10:30 - 62° wind 2-9 mph sunny
collinsia just blooming. No herbivory. Antirrhinum
very young.

- 57 Common White 
68 Sava Orange Tip 
34 Lady (Painted) 
31 Behr's metalmark 
6 Gabb's checkerspot 
1 Acmon Blue 1
3 Buckeye III
1 Dusky wing skipper 1
1 Blue 1
17 Moths 

3:00 65° 0-5 mph 2 horned lizards noted

4:30 0-7 mph 65°

Barza Field Notes

4/24/03

Start: 9:30 AM 63° 0-3 mph Sunny
Collinsia still blooming but ^{other flowers} almost over. No herbivory
noted. Lady's are in migration from the south. Most
are flying through without stopping. Two horned lizards
noted.

- noted.
- 61 Common White IIII
65 Sava Orange tip IIII
56 Metalmark IIII
6 babb's checker spot IIII
see below Lady^(Painted) IIII
1 Buckeye I
5 Dusky wing skipper IIII
1 Marine blue I
3 Southern blue III
1 Perplexing hairstreak I
3 Hawk moth III
22 Moths IIII II
see below Lady IIII
272 Lady IIII

1:00PM 68° wind 0-7 mph

End 3:00 PM 72° Wind @ 7 mph

Garza Quino Field Notes

4/27/03

Start: 10:00 69° Wind 2-7 mph from west,
Sunny, Roughly 10% of Collinsia blooming.
Antirrhinum getting closer to bud. No herbivory.

- 49 Common White |||||
79 Sava Orange-tip |||||
39 Behr's Metalmark |||||
7 babb's Checkerspot |||||
110 Lady |||||
1 Hartford Sulphur |
1 Buckeye |
6 Duskywing Skipper |||||
1 Southern Blue |
2 Hawk moth ||
55 Moth |||||

11:00 70° Wind 2-7 mph

End 4:00 65° Wind 2-7 mph

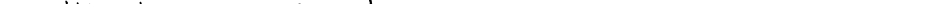
5/1/03

52 Common white

see below Sava Orange + tip

39 Behr's metal mark ||| |||| |||| |||| |||| |||| |||| ||||

5 babb's checkers pot ||||

98 Lady 


1 Dusky wing skipper 1

1 Buckeye 1

1 Red Admiral 1

2 Marina blue 11

2 Hawkmoth 11

50 Moth 

96 Sava Orangetip IIII IIII IIII I

1:30 72° 0-3 mph Clear sun

End 3:30 Wind 0-3 mph 72°

Barza Quimo Field Notes

5/12/03

Start: 11:30 75° wind 0-2 mph partly cloudy. Most nectaring sites gone. Collinsia still blooming. Antirrhinum just starting. No herbivory.

55 Common white IIII IIII IIII IIII IIII IIII IIII IIII IIII
77 Sava Orange tip IIII IIII IIII IIII IIII IIII IIII IIII IIII IIII
18 Behr's metal mark IIII IIII IIII
18 Lady IIII IIII IIII migration over
2 babbs checkerspot II
4 Buckeye IIII
6 Acmon blue IIII
6 Dusky wing^d skipper IIII
1 Hartford Sulphur I
1 Sleepy sulphur I
1 Red admiral I
15 Hawk moth IIII IIII IIII
40 Moth IIII IIII IIII IIII IIII IIII IIII IIII

End 5:00 72° Wind 0-4 mpc

Cordylanthus still very young.

APPENDIX B. Plant Species Observed

APPENDIX B
PLANT SPECIES OBSERVED ON THE GARZA/POWELL PROPERTIES

Family Name	Species Name ♦	Common Name	Habitat
AGAVACEAE	<i>Yucca schidigera</i>	Mohave yucca	SMC
	<i>Yucca whipplei</i>	Our Lord's candle	SMC
ANACARDIACEAE	<i>Rhus ovata</i>	Sugar bush	SMC
	<i>Rhus trilobata</i>	Squawbush	SMC, SCLORF
APIACEAE	<i>Apiastrum angustifolium</i>	Mock parsley	SMC
	<i>Daucus pusillus</i>	Rattlesnake weed	SMC
ASTERACEAE	<i>Lomatium lucidum</i>	Shiny lomatium	SMC
	<i>Acourtia microcephala</i>	sacapellote	SMC
	<i>Agoseris retrorsa</i>	Spear-leaf agoseris	SCLORF
	<i>Artemisia dracunculus</i>	False tarragon	SCLORF
	<i>Chaenactis glabriuscula</i>	San Diego pincushion	SMC, SCLORF
	<i>Cirsium occidentale</i>	Cobweb thistle	SMC, SCLORF
	<i>Coreopsis bigelovii</i>	Bigelow's coreopsis	SMC
	<i>Corethrogya filaginifolia</i>	Mountain cudweedaster	SCLORF, SMC
	<i>Erigeron foliosus</i>	Fleabane	SMC
	<i>Eriophyllum confertiflorum</i>	Golden yarrow	SMC
	<i>Eriophyllum wallacei</i>	Wallace's woolly-daisy	SMC
	<i>Filago californica</i>	California filago	SMC
	<i>Gnaphalium canescens</i>	Felty everlasting	SMC
	<i>Gutierrezia californica</i>	Broom matchweed	SMC, SCLORF
	<i>Lasthenia californica</i>	Goldfields	SMC
	<i>Malacothrix californica</i>	Desert dandelion	SMC
	<i>Microseris douglasii</i>	Douglas' microseris	SMC
	<i>Microseris lindleyi</i>	Silver puffs	SMC, SCLORF
	<i>Rafinesquia californica</i>	California chicory	SMC
	<i>Senecio californicus</i>	California butterweed	SMC
	<i>Sonchus asper</i> ♦	Prickly sow-thistle	SMC
	<i>Stephanomeria exigua deanei</i>	Deane's wreath-plant	SMC
	<i>Stylocline gnaphalioides</i>	Everlasting neststraw	SMC
	<i>Amsinckia intermedia</i>	Common fiddleneck	SMC, SCLORF
BORAGINACEAE	<i>Cryptantha</i> sp.	cryptantha	SMC, SCLORF
	<i>Cryptantha intermedia</i>	Nievas cryptantha	SMC, SCLORF
	<i>Pectocarya penicillata</i>	Winged pectocarya	SMC
	<i>Pectocarya setosa</i>	Bristly pectocarya	SMC
	<i>Plagiobothrys</i> sp.	popcornflower	SMC
	<i>Arabis sparsiflora</i>		SCLORF, SMC
BRASSICACEAE	<i>Athysanus pusillus</i>	Dwarf athysanus	SMC
	<i>Caulanthus</i> sp.	caulanthus	SMC
	<i>Caulanthus</i> sp.	caulanthus	SMC
	<i>Descurainia pinnata</i>	Tansymustard	SMC
	<i>Draba cuneifolia</i>	Desert whitlow	SMC
	<i>Erysimum capitatum</i>	Douglas' wallflower	SCLORF
	<i>Sisymbrium</i> sp. ♦	rocket	SMC, SCLORF
	<i>Streptanthus campestris</i>	Southern jewelflower	SCLORF
CACTACEAE	<i>Opuntia acanthocarpa</i>	Buckhorn cholla	SMC
	<i>Opuntia occidentalis</i>	Western pricklypear	SMC

CAMPANULACEAE	<i>Nemacladus longiflorus</i>	Longflower threadplant	SMC
	<i>Nemacladus ramosissimus</i>	Nuttall's threadplant	SMC
CAPRIFOLIACEAE	<i>Lonicera suspicata</i>	Chaparral honeysuckle	SMC
CARYOPHYLLACEAE	<i>Loeflingia squarrosa</i>	California loeflingia	SMC
CHENOPODIACEAE	<i>Chenopodium californicum</i>	California goosefoot	SCLORF
CRASSULACEAE	<i>Crassula connata</i>		SMC
CUCURBITACEAE	<i>Marah macrocarpus</i>	Wild cucumber	SMC
DATISCEAE	<i>Datisca glomerata</i>	Durango root	SMC
EPHEDRACEAE	<i>Ephedra californica</i>	California ephedra	SMC
ERICACEAE	<i>Arctostaphylos glauca</i>	Bigberry manzanita	SMC
	<i>Arctostaphylos pungens</i>	Mexican manzanita	SMC
FABACEAE	<i>Lotus argophyllus</i>	Silverleaf lotus	SMC
	<i>Lotus scoparius</i>	Deerweed	SMC
	<i>Lotus strigosus</i>	Bishop's lotus	SMC
	<i>Trifolium tridentatum</i>	Tomcat clover	SMC, SCLORF
	<i>Trifolium sp.</i>	clover	SMC
FAGACEAE	<i>Quercus agrifolia</i>	Coast live oak	SCLORF
	<i>Quercus berberidifolia</i>	scrub oak	SMC
GARRYACEAE	<i>Garra veatchii</i>	Veatch silktassel	SMC, SCLORF
GERANIACEAE	<i>Erodium botrys</i> ♦	Long-beak filaree	SMC
GROSSULARIACEAE	<i>Ribes indecorum</i>	White flowering currant	SMC, SCLORF
HYDROPHYLLACEAE	<i>Emmenanthe pendiflora</i>	Whispering bells	SMC
	<i>Nemophila menziesii</i>	San Diego baby-blue-eyes	SMC
	<i>Phacelia sp.</i>	phacelia	SMC
	<i>Phacelia distans</i>	Wild-heliotrope	SMC, SCLORF
LAMIACEAE	<i>Salvia apiana</i>	White sage	SMC
	<i>Salvia columbariae</i>	Chia	SMC
	<i>Trichostema parishii</i>	Mountain blue-curly	SMC
LILIACEAE	<i>Calochortus concolor</i>	Goldenbowl mariposa	SMC
	<i>Dichellostemma capitatum</i> ssp. <i>pauciflorum</i>	Blue dicks	SMC
LOASACEAE	<i>Mentzelia sp.</i>	mentzelia	SCLORF
MALVACEAE	<i>Sidalcea malvaeflora</i>	Checkerbloom	SCLORF
ONAGRACEAE	<i>Camissonia californica</i>	Mustard evening primrose	SMC
	<i>Camissonia hirtella</i>	Field suncup	SMC, SCLORF
	<i>Clarkia purpurea quadrivulnera</i>	Farewell-to-spring	SMC
	<i>Epilobium canum californica</i>	California fuchsia	SCLORF, SMC
PAEONIACEAE	<i>Paeonia californica</i>	California peony	SMC
PAPAVERACEAE	<i>Eschscholzia californica</i>	California poppy	SMC, SCLORF
POACEAE	<i>Bromus diandrus</i> var. <i>gussonei</i> ♦	Common or Gusson ripgut grass	SCLORF, SMC
	<i>Bromus madritensis</i> ♦	Compact chess	SCLORF
	<i>Bromus mollis</i> ♦	Soft chess	SCLORF
	<i>Bromus rubens</i> ♦	Foxtail chess	SMC, SCLORF
	<i>Bromus tectorum</i> ♦	Cheat-grass	SMC, SCLORF
	<i>Festuca sp.</i> ♦	fescue	SMC, SCLORF
	<i>Hordeum murinum glaucum</i> ♦	Glaucous barley	SCLORF
	<i>Melica imperfecta</i>	Coast range melic	SMC
	<i>Schismus barbatus</i> ♦	Mediterranean schismus	SMC
POLEMONIACEAE	<i>Eriastrum sapphirinum</i>	Wolly-star	SCLORF, SMC
	<i>Gilia australis</i>	Southern gilia	SMC
	<i>Gilia capitata abrotanifolia</i>	Ball gilia	SMC, SCLORF

	<i>Gilia caruifolia</i>	Caraway-leaf gilia	SMC
	<i>Linanthus bellus</i>	Desert beauty	SMC
	<i>Linanthus lemmonii</i>	Lemmon linanthus	SMC
POLYGONACEAE	<i>Chorizanthe fimbriata</i>	Fringed Turkish rugging	SMC, SCLORF
	<i>Eriogonum elongatum</i>	Tall buckwheat	SMC
	<i>Eriogonum fasciculatum</i>	California buckwheat	SMC
	<i>Eriogonum wrightii</i>	Foothill buckwheat	SCLORF, SMC
	<i>Eriogonum</i> sp.	Annual buckwheat	SMC
	<i>Eriogonum</i> sp.	Annual buckwheat	SMC, SCLORF
	<i>Oxytheca trilobata</i>	Spinebract	SMC
	<i>Pterostegia drymarioides</i>	California threadstem	SMC, SCLORF
PORTULACACEAE	<i>Calyptridium monandrum</i>	Sandcress	SMC
	<i>Claytonia perfoliata</i>	Miner's lettuce	SMC, SCLORF
RANUNCULACEAE	<i>Delphinium parishii</i>	Colorado desert larkspur	SMC, SCLORF
RHAMNACEAE	<i>Ceanothus cuneatus</i>	Buckbrush	SMC
	<i>Ceanothus leucodermis</i>	Whitebarked lilac	SMC, SCLORF
RHAMNACEAE	<i>Rhamnus californica</i>	Coffeeberry	SCLORF
	<i>Rhamnus ilicifolia</i>	Holly-leaf redberry	SMC, SCLORF
ROSACEAE	<i>Adenostoma fasciculatum</i>	Chamise	SMC
	<i>Adenostoma sparsifolium</i>	Red shank	SMC
	<i>Cercocarpus betuloides</i>	Birchleaf mountain mahogany	SMC
	<i>Prunus ilicifolia</i>	Holly-leaf cherry	SMC
RUBIACEAE	<i>Galium andrewsii</i>	Moss bedstraw	SMC, SCLORF
	<i>Galium aparine</i> ♦	Common bedstraw	SCLORF, SMC
SCROPHULARIACEAE	<i>Antirrhinum coulterianum</i>	White snapdragon	SMC, SCLORF
	<i>Collinsia concolor</i>	Southern Chinese houses	SCLORF, SMC
	<i>Diplacus aurantiacus</i>	San Diego monkey flower	SMC
	<i>Mimulus brevipes</i>	Slope semiphore	SMC
	<i>Mimulus guttatus</i>	Seep monkey flower	SMC
	<i>Penstemon spectabilis</i>	Showy penstemon	SMC

♦ = Non-native Plant Species SMC= Southern Mixed Chaparral SCLORF= Southern Coast Live Oak Riparian Forest